



Foundations On-Demand

Mortgage Fundamentals
Workbook

© 2025 Radian Group Inc. All Rights Reserved. 550 East Swedesford Road, Suite 350, Wayne, PA 19087. Radian Group Inc. and its subsidiaries and affiliates make no express or implied warranty respecting the information presented and assume no responsibility for errors or omissions. Redistribution or reproduction of all or part of the contents without Radian's prior written consent is expressly prohibited. The content presented is intended to convey general information and is for informational purposes only and does not constitute legal or accounting advice or opinions. An attorney or accountant should be consulted for specific information. This communication is provided for use by real estate or mortgage professionals only and is not intended for distribution to consumers or other third parties. This does not constitute an advertisement as defined by Section 1026.2(a)(2) of Regulation Z.

radian
national training

Introduction

At Radian, we realize that more and more new people are excited to join the mortgage profession and many have little to no exposure to our industry. The Mortgage Fundamentals series is designed to provide the first exposure to the core basics needed for anyone brand new to the mortgage business.

Through a series of videos and activities new mortgage professionals will receive a high level overview of the mortgage banking industry, become familiar with key terms, mortgage products, and begin learning about the key components that go into approving a borrower for a mortgage. The program is intended to help prepare those new our industry with the foundation they need to succeed through their new hire training and first several months in their new role.

Let's begin with our objectives for this series:

- The mortgage process overview
- Mortgage payment basics & Escrow components
- Mortgage products
- Mortgage terminology
- Basic calculations – making sense of the loan to value (LTV) ratio and debt to income (DTI) ratio
- Getting familiar with the 3 C's of underwriting - Credit, Capacity, Collateral



Read Me!

Notes:

The Mortgage Process

After completing the questions and notes in this workbook, be sure to check your answers in the pages at the end of the document.

? While you watch the video, answer the following questions and capture notes here:

? Where does the mortgage process begin?

? What does the processor do?

? Where does the decision to approve or decline a loan get made?

? What happens when the closer receives the file?



Watch Me!

The Mortgage Process



CLICK TIP!

Documentation that a Borrower Needs to Apply for a Mortgage, Click Here.



Answer Me!

Notes:

Understanding Mortgage Payments - Jargon & Terminology

Throughout this workbook you will learn about many terms and acronyms that you will need to as you begin your career in mortgage banking. In this section, you will find just a few of the core basics to make sure that you have a clear understanding of these terms before you move forward to the rest of the videos.

Mortgage - A type of loan used to purchase residential property (a home). The property serves as security or collateral to a creditor (the lender) for the debt (the amount that is borrowed). This means the lender can take possession and sell the property to pay off the loan if the borrower defaults on the loan or fails to adhere to its terms.

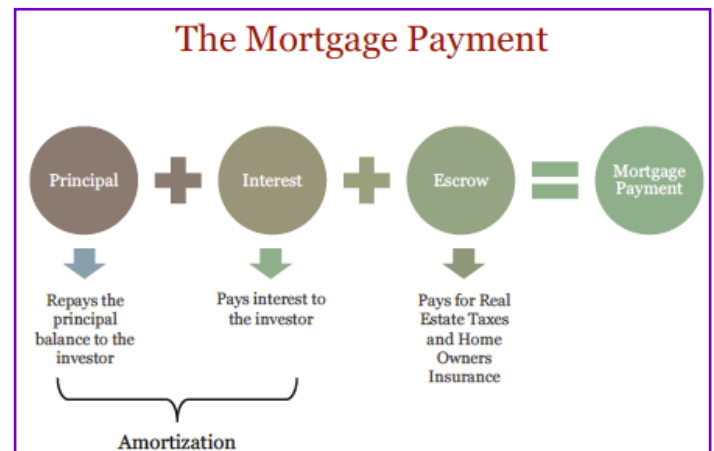
Mortgage Payments - The mortgage payment is the monthly amount required to repay the mortgage debt (principal), the interest due on the loan, and in most cases a payment to an escrow account.

The acronym for the mortgage payment is **PITI** and it includes:

- Principal & Interest (P & I) - The portion that is collected by the lender to repay the amount you borrow and the interest (based on the interest rate on the loan) on it.
- Tax (T)- The amount collected by the lender to pay local property taxes when due.
- Insurance (I)- The amount collected by the lender to pay hazard or homeowners' insurance, which covers the property in case of fire or other type of disasters. Lenders typically collect a monthly amount necessary to pay the annual premium every year.



Read Me!



Notes:

Understanding Mortgage Payments - Jargon & Terminology

Amortization - The gradual elimination of the mortgage liability over the term of the loan.

Escrow Analysis - Is performed at least once a year to determine if there are sufficient funds being collected in the escrow account to pay the tax and insurance bills. As the amount of these bills fluctuate, it isn't uncommon for the escrow account payment amount to also change.



Read Me!

Notes:

Escrow Components

Take notes on each item that can be paid from an escrow account.

- Real Estate Taxes:
- Hazard Insurance:
- Private Mortgage Insurance (PMI) – Insurance that protects the lender and investor when the borrower puts a downpayment of less than 20%. This insurance allows the lender to take on risk and allows the borrower to obtain homeownership with less money out of their pocket! PMI can also be removed once the borrower has met the equity requirements for their loan.
- Mortgage Insurance Premium (MIP) – Similar to Private Mortgage Insurance, but this insurance is required on FHA loans and in most instances remains for the life of the loan.
- Flood Insurance:
- Home Owners Association (HOA) dues:



Watch Me!

Escrow Components



Answer Me!

Notes:

Loan to Value

The **Loan to Value ratio (LTV)** represents the value of the property compared with the mortgage loan amount, expressed as a percentage.

From the customer's perspective, it represents the amount of equity that they have in the property versus how much they still owe to the lender. See an example below.

- ? How do you calculate the Loan to Value ratio?
- ? What is a good rule of thumb when evaluating risk?

Combined Loan to Value Ratio: The combined loan-to-value ratio (CLTV) is the ratio of all loans secured on a property versus the property's value. It isn't uncommon for a borrower to have a 1st mortgage and a 2nd loan on the property. If this is the case, you would simply add the loan amounts together before dividing by the property value to determine produce the CLTV. A scenario is provided on the following page to help you practice the calculation.

Home Value	\$200,000
Borrower's Down Payment	\$40,000
Loan Amount	\$160,000
Loan To Value (160,000 / 200,000)	80%
Borrower's Equity (40,000 / 200,000)	20%



Watch Me!

Loan to Value



Answer Me!

Notes:

Loan to Value (cont.)

Jennifer and Chris are purchasing their first home. The home is worth \$100,000. They have money for reserves, closing costs, and \$20,000 available for a down payment. They will need to borrow \$80,000.

? What is the LTV Ratio? _____

Soo and Richard are refinancing their home and the appraised value is \$150,000. To pay off their existing mortgage and pay the closing costs on the loan, this rate and term refinance loan amount will be \$130,000.

? What is the LTV Ratio? _____

? They will have _____ % equity in their property?

Julian and Susan are purchasing a second home valued at \$200,000, and have decided to take out two loans on the property. The first loan is in the amount of \$100,000 and the second is in the amount of \$50,000.

? 1st Loan Amount _____

? 2nd Loan Amount + _____

? Combined Loan Amount = _____

Combined
Loan Amount _____ = _____ %

Property
Value _____ CLTV



Calculate Me!

Interest rate calculations can be tricky. You might want to have your supervisor check your math!



Answer Me!

Notes:

Loan Products

? What are the two categories of loans mentioned in the video?

? Fixed-Rate Mortgage Product:

? Adjustable Rate Mortgage (ARM) Product:



Watch Me!

Loan Products



Answer Me!



**Take Notes as
You Listen**

Notes:

Loan Products (cont.)

Introductory Rate— ARM loans commonly have an introductory rate for a specific period of time before the first rate adjustment.

For example:

1 Yr ARM	The rate adjusts annually
3/1 ARM	The rate is fixed for three years, then adjusts each year for the remaining 27-year term.
3/3 ARM	The rate is fixed for three years, then adjusts every three years for the remaining 27-year term.
5/1 ARM	The rate is fixed for five years, then adjusts each year for the remaining 25-year term.
5/5 ARM	The rate is fixed for five years, then adjusts every five years for the remaining 25-year term
7/1 ARM	The rate is fixed for seven years, then adjusts each year for the remaining 23-year term.
10/1 ARM	The rate is fixed for ten years, then adjusts for the remaining 20 year term.



Read Me!

Notes:

Loan Products (cont.)

After the introductory rate, the rate adjusts based on the combination of the “margin” on the loan plus the current “index” and not to exceed the “cap” or maximum adjustment allowed.

- **Margin:** A figure set at the inception of the loan and it never changes. This is a fixed % rate added to the index that the investor receives.
- **Index:** reflects the cost of money and is based on published independent interest rates (T-Bills, Libor, COFI, etc.) Think of this as something similar to prevailing bank CD rates. They can change daily.
- **Caps:** These are the safeguards established at the inception of the loan and never change. The periodic cap is the maximum a rate can increase or decrease at any given rate change. The Life Cap sets the limit of the maximum interest rate that can be charged on the loan.

Margin + Index = New Rate



Read Me!

Notes:

Loan Products (cont.)

ARM Example:

Reminder: The formula for the new rate adjustment is $\text{Margin} + \text{Index} = \text{New Rate}$ (don't forget to round to the nearest .125%) The new rate can not exceed the periodic or life caps.

Sample Rate Adjustment:

$2.00 \text{ (Margin)} + 1.70 \text{ (Index)} =$
 3.70%

(rounded to nearest .125%)

Initial Rate: 3.50%

Periodic Cap: 2.00%

Life Cap: 6.00%

Margin: 2.00%

Index: 1.70%

New Interest Rate: _____

Initial Rate: 3.50%

Periodic Cap: 2.00%

Life Cap: 6.00%

Margin: 2.00%

Index: 5.00%

New Interest Rate: _____



Calculate Me!

Interest rate calculations can be tricky.
You might want to have your supervisor
check your math!

Initial Rate: 3.50% **Margin:** 2% **Periodic Cap:** 2% **Life Cap:** 6%
(or 11% for this loan)

Formula: $\text{Index} + \text{Margin} = \text{New Rate}$

Period	Index Value	Margin	Index + Margin	New Rate*
Start Rate	N/A	N/A	N/A	3.50%
1 st Adjustment	1.70%	2.0%	3.70%	3.75%
2 nd Adjustment	2.00%	2.0%	4.00%	4.00%
3 rd Adjustment	5.00%	2.0%	7.00%	6.00%

*Periodic Cap limits the rate of increase to 2%

Loan Products (cont.)

Sandy and John are purchasing their first home. They have saved a 10% down payment and searched for the perfect home for over a year. They finally settled on a beautiful little Cape Cod style house in their “perfect” neighborhood. It is a great starter home for them! They are considering which product is best for them and are looking at a 30-year, fixed mortgage and a 5/5 ARM mortgage. Help them better understand their options by answering the questions below:

- With the 5/5 ARM product, how long is their fixed introductory rate?
- How frequently will their rate potentially adjust after that introductory period?
- If a borrower has a 30-year, fixed rate mortgage, how often will their interest rate adjust?
- What are the benefits of the ARM product for Sandy and John?



Answer Me!

Notes:

3 C's of Underwriting - Credit

The video will take you through an overview of each of the main parameter of the mortgage underwriting process. There is corresponding worksheet questions for each. Be sure to complete them as you follow along. You may want to pause it after each "C" to make sure you have answered all the questions for that section.

? What are the 3 C's of underwriting?

CREDIT

When a borrower applies for a mortgage, their "character" comes into question. How well a borrower has paid their bills in the past is a great indication how they will repay a new debt in the future. For this reason, the first "C" that is reviewed is generally the borrower's credit history.

Credit Report: A record of your credit history or activity. It includes the names of companies that have extended you credit and/or loans, as well as the credit limits and loan amounts. Your payment history is also part of this record. If you have delinquent accounts, bankruptcies, foreclosures or lawsuits, these can also be found in your credit report.*



Watch Me!

The 3C's of Underwriting



Click Tips!

As a new mortgage professionals, Sometimes it's easiest to learn about the mortgage processes like a consumer. Check out this link for a consumer friendly overview called Understanding Credit.

Notes:

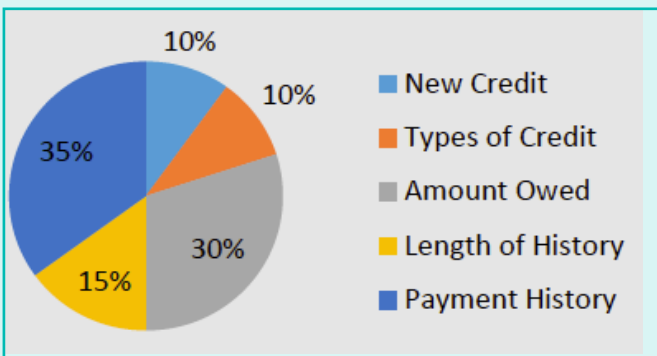
3 C's of Underwriting - Credit

Fair Isaac Corporation (FICO) is the name of the company that provides software for calculating a person's credit score.

? What is the credit score range?

? What are the names of the three credit reporting bureaus?

How payment and debt information impacts a borrowers credit score:



Payment history -This is the first thing any lender reviews and it tell them is the borrower has repaid past accounts on time.

Amounts owed - The outstanding balances on each account. A higher utilization of credit (they have use a large % of their available credit), may that the borrower is at higher risk for late payments and the FICO score will take that into consideration.

Length of credit history - A longer credit history may increase FICO® Scores.



Answer Me!



Read Me!

Notes:

3 C's of Underwriting - Credit

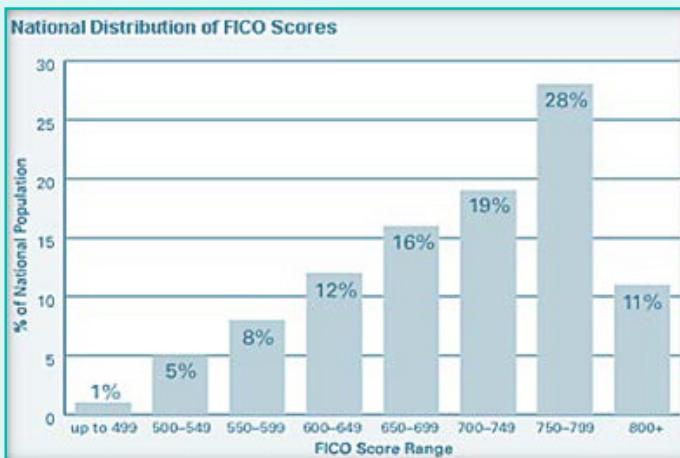
Length of credit history - A longer credit history may increase a FICO® Scores. The score will take into consideration:

- The age of our oldest and newest accounts
- How long specific credit accounts have been established
- How long it has been since certain accounts have been used

Credit Mix or New Credit

A borrower's credit mix (or the mix of credit cards, installment loans, and mortgage loans) is also important. It should also be mentioned that several new accounts opened over a short period of time can be considered a risk factor.

Distribution of FICO in the US:



- ? Where do most people fall in the FICO range?
- ? Do you know your credit score?
- ? What changes can you make to influence your own FICO score?



Answer Me!

Notes:

3 C's of Underwriting - Capacity

Capacity

Borrower Capacity – Income and Employment

Income used to qualify the borrower must come from a source that can be demonstrated as stable and likely to continue. The measurement of stability may vary depending on the income source of the borrower. For example, a W2 Salary Income Earner versus W2 Salary with Commission Income Earner may have different requirements to indicate that their income is “stable”.

? What is the most common income source used the mortgage application process?

? What makes a borrower's income stable?



Click Tips!

Income and employment requirements will need a deeper dive. Once you've learned the basics, check out our Basics of Income series!



Answer Me!

Notes:

3 C's of Underwriting - Capacity

The “debt-to-income ratio“, or “DTI” is a vital part of evaluating if the borrower has the capacity to repay the mortgage debt. This calculation is the way that the lender determines if the borrower can afford the new loan payment. Determining DTI is a simple formula, calculated based on several key elements of a homeowner’s incoming gross monthly income versus outgoing expenses. There are two basics DTI types:

- **Front-End DTI:** The percentage of the household’s gross monthly income that is needed to meet the monthly housing payment is called the Front-End DTI. As a reminder, the housing payment includes principal, interest, taxes, insurance, and any association fees (PITIA).
- **Back-End DTI:** The percentage of the household’s gross monthly income that is needed to meet the total monthly household obligations. Monthly household obligations include the monthly housing payment plus any monthly obligations that appear on the borrower(s) credit report and liabilities that may have been identified through the application and underwriting process.

What DTI is needed for approval? The maximum debt-to-income ratio will vary by company, loan program, and investor. Risk based underwriting and compensating factors will also determine the ratio for each loan file, but generally this ratio will range between 36-50% based on the overall risk assessment of the loan file.



Read Me!

Notes:

3 C's of Underwriting - Capacity

Regardless of front or back ratio, the calculation is similar. By dividing all of the housing (for Front DTI) or household (for Back DTI) monthly liabilities by the borrower's gross monthly income, to determine the percentage or DTI.

Sample Formula:

Monthly PITIA:	\$1500
Auto Loan:	\$100
Credit Card Debts:	\$400
Total Monthly Debts	\$2000
Gross Monthly Income:	\$6000

Front DTI: $\$1500/\$6000 = 25\%$

Back DTI: $\$2000/\$6000 = 33\%$

It's your turn to practice what you've learned!

Calculate the answers to the following DTI scenarios.
Good luck!

Practice Scenario 1:

Monthly PITIA:	\$3000
Auto Loan:	\$425
Credit Card Debts & Loans:	\$375
Total Monthly Debts	\$_____
Gross Monthly Income:	\$6000

- ? What is the Back DTI?
- ? Is it likely that this loan will be approved?
- ? Why?



Read Me!



Answer Me!

Notes:

3 C's of Underwriting - Capacity

Let's keep practicing. This is math that matters!

Practice Scenario 2:

Monthly PITIA:	\$850
Auto Loan:	\$125
Credit Card Debts:	\$150
Total Monthly Debts	\$1125
Gross Monthly Income:	\$2000

- ? Based on the monthly obligations above, what is the borrower's DTI?
- ? Is it likely that this loan will be approved?
- ? Why?

Practice Scenario 3:

Monthly PITI:	\$1237
Grocery Expense:	\$400
Credit Card Debts:	\$350
Homeowner's Assoc. dues:	\$50
Gross Monthly Income:	\$4000

- ? What is the total monthly debt obligation?
- ? What is the borrower's DTI?
- ? Is it likely that this loan will be approved?



Answer Me!

Notes:

3 C's of Underwriting - Capacity

Sometimes referred to as the fourth “C”, the borrowers assets are typically reviewed to confirm the borrower has sufficient “**capital**” capacity to meet the closing cost obligations.

Closing cost may include:

- Down payment money
- Fees associated with closing the transaction

Reserves or a minimum amount of funds in saving after closing Lenders will check the borrower's current balances and recent statements for any bank accounts, including checking and savings, confirming that the required funds and reserves are available. The borrowers may have additional sources of funds, such as:

- Investments, stocks, bonds or certificates of deposit
- Retirement funds or life insurance policies
- They may also be receiving a gift from a family member

Assets:

Minimum down payment (Conventional Loans)

Transaction Type	Funds Required
Agency Conforming (97% LTV)	3%
Agency Conforming	5%
Agency Conforming 1 Cash-Out Refinance	5%



Read Me!

Notes:

3 C's of Underwriting - Collateral

Lenders need to determine the value and type of property being financed. It is important for the underwriter to confirm that the loan amount does not exceed a property's value. If the borrower owes more than the property is worth, the lender may not be able to recover a loan's unpaid balance, in the case of a default (or the borrower does not make their payments as agreed).

For example, when you purchase a car with an auto loan. The car is the collateral. If you do not pay your loan as agreed, the bank will take back the collateral or repossess the car.

? When a borrower takes out a mortgage, the collateral for the loan is the_____?

? What is the purpose of an appraisal report?

? The appraisal report also indicates the property's condition. Why do you think that would be important information for both the borrower and the lender?



Read Me!



Answer Me!



Click Tips!

Check our webinar calendar to register for our Understanding and Reviewing Appraisals course.

Notes:

3 C's of Underwriting - Collateral

There are many different property types and some that you will find more frequently in certain geographic areas. The property is used for collateral so it is important that you start to familiarize yourself with them.

Put a check mark next to the property types that you are already familiar with from your own experience or community.

- ☐ **Single Family Residence** – Free standing or attached home which is zoned for one family only.
- ☐ **Two-Unit Property** - A duplex contains two units and can accommodate two families.
- ☐ **Fourplex** - contains three to four individual units to accommodate three to four families.
- ☐ **Condominiums or Condos** – a building or complex of buildings containing a number of individually owned apartments or houses. There is an association that manages the common areas and shared structures. There are also generally associations dues required. (Remember PITI – A)



Read Me!



Answer Me!

Ask an underwriter to review an appraisal report with you and highlight key components and red flags they look for and why! Make notes on what you learn!

Notes:

Mortgage Fraud

Fraud is a very real challenge that mortgage lenders face every day. All mortgage professionals have a responsibility to help identify and protect against fraud. For those that are new to the mortgage industry, it is important to also understand your company's policy and procedure if you observe a "Red Flag" or a sign that make you suspect suspicious activity.

While you watch the video, answer the following questions and capture notes here:

? What is the definition of Mortgage Fraud?

? What are the common elements of mortgage fraud?

? What are the two types of mortgage fraud?



Watch Me!

Mortgage Fraud
Fundamentals video



Answer Me!

Notes:

Mortgage Fraud

? Which type of fraud is the most common to the mortgage banking industry?

? What is one example of fraud for property?

The process of reporting suspected fraud will vary from company to company. Ask your manager or mentor to review the following with you:

? Where can you find your company's Fraud Policy?

? What should you do if you suspect fraud in a loan file based on your company's policy?



Answer Me!



Learn More!

Check our Webinar calendar to register for our live courses.

Notes: